

Aerospace Education Excellence Award Program for America's Schools

Aerospace Careers 2003-2004

**NATIONAL
STANDARDS-BASED
Education
Program**



Sponsored by:
Civil Air Patrol and
The United States Air Force

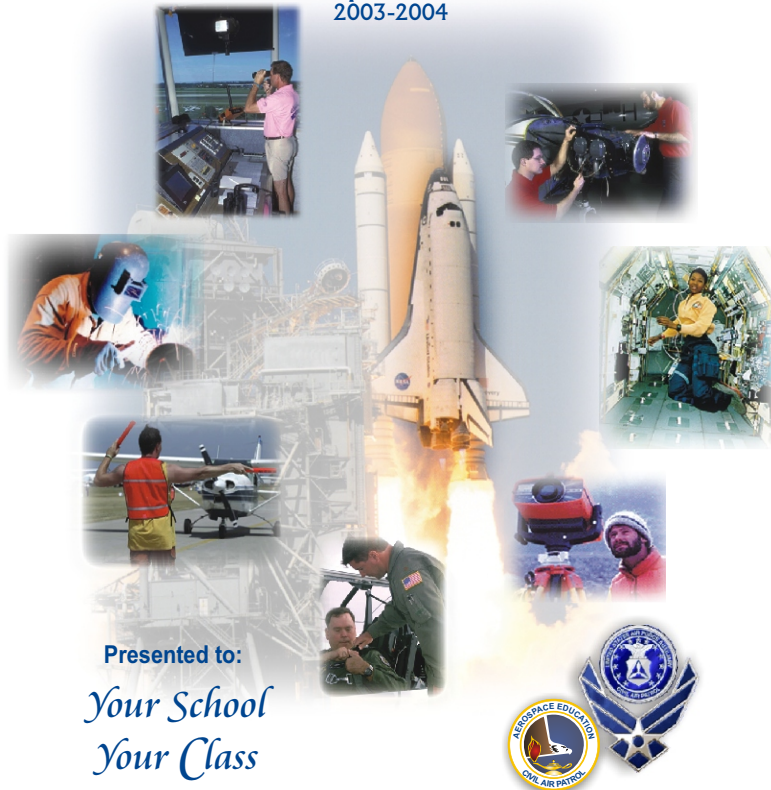
FREE to CAP's AEROSPACE EDUCATION MEMBERS

www.cap.gov

CIVIL AIR PATROL

AEROSPACE EDUCATION EXCELLENCE AWARD

Aerospace Careers
2003-2004



Presented to:

Your School
Your Class

***For outstanding achievement in promoting
Aerospace Education in America's schools.***



This beautiful plaque could be yours !

(Only one plaque can be awarded to a teacher during the school year.)

AEROSPACE EDUCATION EXCELLENCE (AEX) AWARD PROGRAM for AMERICA'S SCHOOL



The United States Air Force and Civil Air Patrol, the official Air Force Auxiliary, are proud to join hands and present this program.

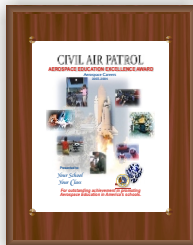


This Aerospace Education Excellence Award(AEX) program is offered free of charge to teachers who are Aerospace Education Members of Civil Air Patrol.



Teachers can select from one of two age-appropriate books. AEX I is designed for grades K-5 and AEX II for grades 6-12. Each book contains numerous fun-filled, hands-on, educational activities to excite and motivate your students.

★ **National Standards** have been identified for all activities.



Your participation will be rewarded with a beautiful plaque to proudly display in your classroom.



Students are rewarded with a very nice certificate of completion to take home to parents.

**This brochure contains all the information
you'll need to get started, so please read on.**

CIVIL AIR PATROL

Official Auxiliary of the United States Air Force

AEROSPACE EDUCATION EXCELLENCE AWARD

Presented to

(Student)

by

(Teacher)

(School)

(Date)



Aerospace Careers 2003-2004



*For outstanding achievement in
Civil Air Patrol's Aerospace Education
Excellence Award Program*

Your students will be proud to take home this SPECIAL AWARD CERTIFICATE.

Exactly what is Civil Air Patrol and what is the Aerospace Education Excellence Award Program?

What is Civil Air Patrol (CAP)? Civil Air Patrol is the official auxiliary of the United States Air Force. Formed Dec. 1, 1941, CAP is a nonprofit, humanitarian organization that has grown to approximately 64,000 volunteer members. It is best known for search and rescue and disaster relief but also is chartered by the United States Congress to promote aerospace education across the nation.

Why does CAP offer this program? CAP promotes the use of aerospace themes to help teachers excite and motivate their students to excel in science, math, technology, language arts, social studies, plus other traditional subjects.

Who can participate in this program? This program, along with others, is offered free of charge to teachers who are Aerospace Education Members (AEMs) of Civil Air Patrol. AEMs will receive a membership certificate, a lapel pin, and their choice of over **20 FREE educational products** including lesson plans, newsletters, etc.

How do I join and what does it cost? Simply complete the application form on page 9 and send it to us along with \$30 for annual dues. As a nonprofit, federally subsidized Auxiliary of the Air Force, CAP more than returns the annual dues to its members in the form of **FREE goods and services**. For example, this program alone provides the participating teacher with numerous hands-on activities, a beautiful plaque, student certificates, and free shipping and handling.

If you do not desire to participate in the **AEX award program, but want to join as an Aerospace Education Member (AEM)**, please complete the enclosed form to get your **FREE materials**.



Our Aerospace Education Members receive **FREE** national standards-based educational products to help them inspire their students to excel.

Aerospace Education is an exciting theme that teachers can use to help them capture the imaginations of their students. Aerospace Education is a tool to promote excellence in the classroom.

Civil Air Patrol's educational products meet **national standards**. Our materials are multi-disciplinary and no special aerospace expertise is required to use them.

- Who made airplanes fly is **HISTORY**.
- How rockets fly is **MATH** and **SCIENCE**.
- Who controls the space station is **GOVERNMENT**.
- Where airplanes land is **SOCIAL STUDIES**.
- What the space shuttle costs is **ECONOMICS**.
- Where airplanes fly is **GEOGRAPHY**.

*Fill out the form on page 10
to get your **FREE** materials.*

AND NOW...

The AEX Award Program Package


1. The  **RULES** are simple.

2. The **Reporting Form** on page 12 is user friendly.



3. The book of activities will make it easy for you to prepare an exciting program for your students while meeting **National Education Standards**.

These products use an aerospace theme to enrich traditional subjects taught in the classroom. Use them to enliven Science, Math, Language Arts, Social Studies, History and other subjects.

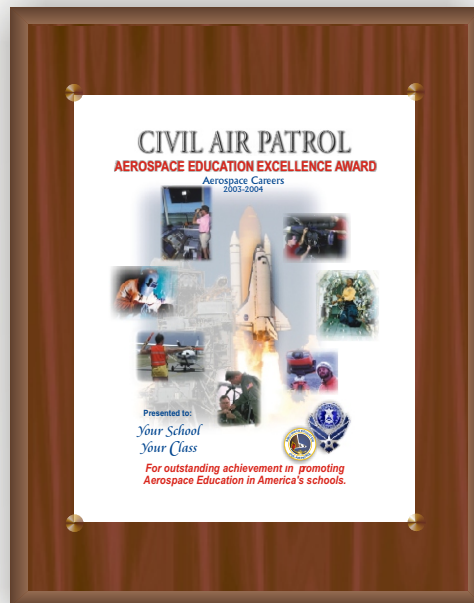
4.  Remember to mark the box on your **FREE Educational Products form**, listed on page 10, in order to enroll in the AEX program.

AEX

Award
Program

The Award

Teachers, you can begin this exciting program with your students in November and earn the award by the end of the school year.



This beautiful 11-1/2" X 14" walnut-type plaque with a top quality, first-of-its-kind award certificate would be a proud tribute to your classroom's Aerospace Education program.

Background

Because our Aerospace Education Members (AEMs) are valued members of CAP and help us bring aerospace education to the classroom, we are extending this special invitation to you. We believe our AEMs make aerospace "real" for America's youth, and we would like to honor your efforts with the beautiful AEX Award plaque. This is just one of the many programs we will be providing our AEMs in the years to come. This program is absolutely free to our AEMs. Thanks for all you do for Civil Air Patrol and the youth of our nation.

If you have any questions, please contact National Headquarters, Civil Air Patrol as follows:

National Headquarters, Civil Air Patrol
Aerospace Education
105 South Hansell Street, Building 714
Maxwell Air Force Base, Alabama
36112-6332

Phone: 334-953-5095
FAX: 334-953-4235
E-mail: aeadmin@cap.gov



AEX AWARD

The Rules

Participating classroom teachers must be current Aerospace Education Members of Civil Air Patrol. Complete page 9 to become an Aerospace Education Member. Complete page 10 to participate in the AEX program for either K-5 or 6-12.

Teachers can select from two age-appropriate activity books. AEX I is designed for grades K-5 and AEX II for grades 6-12. Each book contains numerous fun-filled, hands-on, educational activities to excite and motivate your students. These range from individual exploration activities and group building projects, to discovery and awareness activities involving aerospace careers and notable aerospace personalities. **National Education Standards** accompany the activities.

Six activities must be completed by April 30th of the current school year. Three of the six activities must be from the AEX curriculum.

Substitute activities **require** copies of lesson plans to be **attached to** the report form.

One two-hour aerospace-related activity, such as: airport tour; building and launching hot-air balloons or rockets; aerospace careers day; aviation/space museum tour; and numerous other worthy aerospace activities as determined by the teacher.

Presentation of the Award

Please submit your activity report as soon as possible to ensure you receive your plaque and certificates prior to the end of the school year. Along with your plaque, you will receive a letter of transmittal to your principal for presentation to you and your students at an appropriate occasion.



Student Award Certificates

In addition to the special plaque designed especially for this program, we have developed a Student Participation Certificate for you to give to your students when they complete the program. If you would like to present these certificates to your students, be sure to mark the appropriate box on your activity report form.

Civil Air Patrol Aerospace Education Membership Application



Social Security Number

Name

Residence Address

Daytime Phone

E-mail address

☐ Male

☐ Female

Birth Date

EDUCATION

- ☐ AA
☐ BA or BS
☐ MA or MS
☐ Ed.D. / PH.D.

EMPLOYMENT

- ☐ Teacher
☐ Counselor
☐ Principal
☐ Superintendent

EXPERIENCE

- ☐ 1 Year
☐ 2-5 Years
☐ 6-10 Years
☐ 10- More Years

CLASSROOM TEACHING LEVEL (S)

- ☐ Preschool
☐ Primary
☐ Elementary
☐ Junior High School
☐ High School ☐ AFJROTC
☐ College ☐ AFROTC

APPLICANT EMPLOYED BY

Are you certified as a professional educator?

☐ No

☐ Yes

State

Type of certification

BACKGROUND

1. Citizen of the United States? ☐ Yes ☐ No
2. If no, are you a resident alien with green card? ☐ Yes ☐ No
3. Ever convicted of a felony? ☐ Yes ☐ No
4. Are you **currently** charged with any felony? ☐ Yes ☐ No
5. Served in the armed forces? ☐ Yes ☐ No
6. If yes, were you honorably discharged? ☐ Yes ☐ No

If "no," attach explanation.

If "yes," attach explanation.

If "yes," attach explanation.

If "no," attach explanation.

MEMBERSHIP FEE \$30.00 per year

- ☐ School Purchase Order attached
☐ Check --- payable to National Headquarters, Civil Air Patrol
☐ Credit card --- complete the form below:
☐ Visa ☐ Master Card

Send To:

CIVIL AIR PATROL / LMM

Aerospace Education Membership
105 South Hansell Street, Building 714
Maxwell Air Force Base, Alabama 36112-6332

FAX: (334) 953-4235

E-mail: aeadmin@cap.gov

Information: (334)953-5095

Card Number

Expiration Date

Daytime Telephone

Name as it appears on card

Signature of card holder

SIGNATURE OF APPLICANT

DATE

I certify that this applicant is accepted as a member of Civil Air Patrol. Membership commences on the date processed by National Headquarters and the individuals name appears on the National Headquarters data base.

NATIONAL COMMANDER'S DESIGNEE / NATIONAL HEADQUARTERS REVIEW: INITIAL / DATE

FREE

to Aerospace Education Members

Submit this request **with your membership application and payment**. Only one copy of each product and one AEX award plaque for each teacher a school year.

Ship to:

(Name)

(Address)

(City, State, Zip)

☐ National Congress on Aviation and Space Education Brochure

☐ **ENROLL ME IN THE AEX PROGRAM**

☐ **AEX I - K-5**

☐ **AEX II - 6-12**

GENERAL AE CURRICULUM AIDS

☐ Aerospace Education Bibliography and Resource Listing

☐ The Aerospace Curriculum: An Index of Related Topics

EARLY CHILDHOOD

☐ Aerospace for the Very Young

☐ 4-in-1 Activity Books (two volumes)

K-6

☐ Fun in Flight: Exploring Careers in the Aerospace World

☐ Historical Aircraft Drawing Lessons from Aerospace History (dot-to-dot drawing book)

☐ Wright Brothers Activity Booklet

☐ Amelia Earhart Activity Booklet

☐ Charles Lindbergh Activity Booklet

☐ Mini-Book of Logic and Puzzles

MIDDLE/JUNIOR HIGH LEVEL

☐ Wright Brothers Thematic Unit

☐ Amelia Earhart Thematic Unit

☐ Charles Lindbergh Thematic Unit

☐ Space Shuttle Thematic Unit

☐ History of General Aviation Thematic Unit

AEROSPACE EXCELLENCE ACTIVITY BOOKLETS

☐ Volume Four: 15 activities

☐ Volume Five: 16 activities

SINGLE CONCEPT POSTERS

☐ Aeronautical

☐ Chronology of Aerospace Events

☐ Jet Engines

☐ Space Shuttle

CIVIL AIR PATROL/LMA • 105 South Hansell Street • Maxwell Air Force Base, Alabama 36112-6332
Phone: (334) 953-5095 • FAX: (334) 953-4235 • E-mail: aadmin@cap.gov

Contact the
CIVIL AIR PATROL
Region Director of Aerospace Education (RDAE)
nearest you and unlock a world of Aerospace Education Resources

GREAT LAKES REGION RDAE
(IL, IN, KY, MI, OH, WI)
Det 3, CAP-USAF GLLR
5440 Skeel Avenue, Suite 2
Building 110/Area C
Wright-Patterson AFB, OH 45433-5239
Ofc Ph: (937) 257-3600
E-mail: Alice.Noble@wpafb.af.mil

MIDDLE EAST REGION RDAE
(DE, MD, DC, NC, SC, VA, WV)
1609 Brookley Avenue
Andrews AFB, MD 20762-5000
Ofc Ph: (240) 857-0166
FAX: (240) 857-5273
E-mail: claudine.sayegh@andrews.af.mil

NORTH CENTRAL REGION RDAE
(IA, KS, MN, MO, NE, ND, SD)
760 Military Highway
Minneapolis, MN 55450-2100
Ofc Ph: (612) 713-1471
FAX: (612) 713-1468
Email: dennis.yeager@minneapolis.af.mil

NORTHEAST REGION RDAE
(CT, MA, ME, NH, NJ, NY, PA, RI, VT)
2610 East Second Street
McGuire AFB, NJ 08641-5018
Ofc Ph: (609) 754-2967
FAX: (609) 754-5675
E-mail: Ann.Walko@mcguire.af.mil

PACIFIC REGION RDAE
(AK, CA, HI, NV, OR, WA)
6500 B Street, Bldg 2529
Beale AFB, CA 95903-1712
Ofc Ph: (530) 634-9521
FAX: (530) 634-9522
E-mail: stevew@beale.af.mil

ROCKY MOUNTAIN REGION RDAE
(CO, ID, MT, UT, WY)
6334 South Jay Way
Littleton, CO 80123-3849
Ofc Ph: (303) 795-3656
FAX: (303) 795-9773
E-mail: bentonae@msn.com

SOUTHEAST REGION RDAE
(AL, FL, GA, MS, PR, TN)
105 South Hansell Street, Bldg 714
Maxwell AFB, AL 36112-6332
Ofc Ph: (334) 953-4213
FAX: (334) 953-2613
Email: serdae@msn.com

SOUTHWEST REGION RDAE
(AZ, AR, LA, NM, OK, TX)
1525 Desert Storm
NAS JRB Ft. Worth, TX 76127-1525
Ofc Ph: (817) 782-6400, Ext 16
FAX: (817) 782-6405/6406
E-mail: swrdae@msn.com



AEX AWARD

AEX AWARD REPORT

(Please Print)

School Name _____

Teacher Name _____

Address _____

City _____

State _____ Zip Code _____

Email _____

ACTIVITY 1

Title of Activity _____

Number of Students Participating _____

ACTIVITY 2

Title of Activity _____

Number of Students Participating _____

ACTIVITY 3

Title of Activity _____

Number of Students Participating _____

☐

Please send me _____ AEX Student
Award Certificates (up to 150)

ACTIVITY 4

Title of Activity _____

Number of Students Participating _____

ACTIVITY 5

Title of Activity _____

Number of Students Participating _____

ACTIVITY 6

Title of Activity _____

Number of Students Participating _____

2-Hour Aerospace-Related Activity

Please attach lesson plans for substitute
activities not found in AEX Activity Book to:
National Headquarters, Civil Air Patrol
Aerospace Education
105 South Hansell Street, Building 714
Maxwell AFB., AL 36112-6332
or you may...

FAX to: (334) 953-4235 or
Email to: eadmin@cap.gov

SAMPLE AEX ACTIVITY

ACTIVITY 15 - Background information and instructions are supplied in the AEX activity book.

Role Model - A. Scott Crossfield - First to the Edge of Space in the X-15

OBJECTIVE - This discussion activity will give the students/cadets a background on the legendary X-15 rocket pilot, A. Scott Crossfield and students/cadets will build a model of the aircraft for a unit in aerospace education.



The X-15, the first airplane to fly into and back from space and the man who is considered by many historians to be America's first true astronaut, A. Scott Crossfield

X-15 BUILDING INSTRUCTIONS



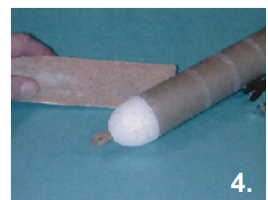
1. A Craft store Easter egg is used to make the nose cone. Using a pencil, punch a hole through the egg as shown.



2. A #64 rubber band is pushed through the hole. Next a soda straw is pulled through one of the loops. This will keep the rubber band from pulling through when stretched for launching.



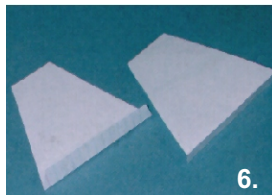
3. The Easter egg assembly will be inserted into a paper towel tube. Hot glue is used to keep the egg in place. Run a bead around the opening of the tube as shown.



4. Once the glue sets up, trim the Easter egg "nosecone" with sandpaper.



5. Using the template, make wings, stabilizers and fin from a file folder or large index card.



6. The edges of the wings are folded as shown, one up and one down.



7. The builder can use most any kind of adhesive, however, the new spray glues work great.

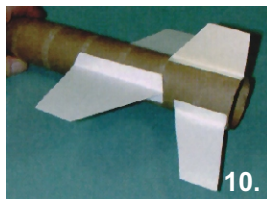


8. The two halves of one wing are glued together so that the folded portion has one up and one face down.

SAMPLE AEX ACTIVITY (Continued)



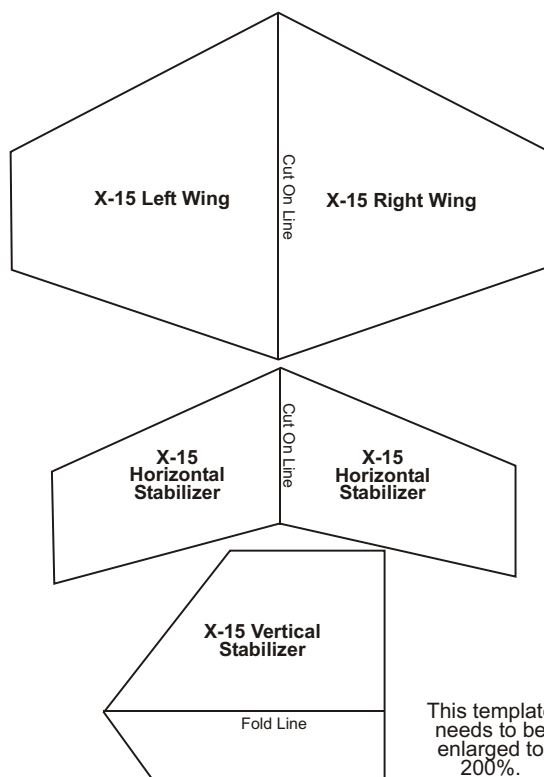
For a really strong bond, it is recommended that the paper wings be hot-glued to the body tube.



The vertical fin and horizontal stabilizer are glued into position as shown.



Your X-15 will look like this when completed

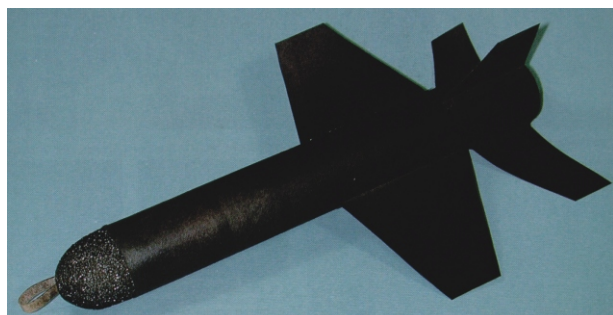


How could you modify your x-15 to make it:

1. Fly faster?
2. Fly farther?
3. Shorten the flight distance?
4. Fly straighter?
5. Fly to a specific target?

Create an experiment to test for each question above. Write your test procedure and results in a scientific format similar to the one below:

- Step 1: State the problem.
- Step 2: Research the problem.
- Step 3: Form a hypothesis.
- Step 4: Test the hypothesis and record data.
- Step 5: Draw conclusions from the data.



When painted black, your X-15 should look like this.

NATIONAL STANDARDS

Science Standards:

- Standard A: Science as Inquiry
- Standard B: Physical Science
 - Motion and forces
- Standard E: Science and Technology
 - Abilities of technological design
 - Understanding about science and technology
- Standard F: Science in Personal and Social Perspectives
 - Science and technology in society
- Standard G: History and Nature of Science
 - Science as a human endeavor
 - History of Science
- Unifying Concepts and Processes
 - Evidence, models, and explanation

Technology Standards:

7. Understanding of the influence of technology on history.
8. Understanding of the attributes of design.
10. Understanding of the role of troubleshooting, research and development.
11. Ability to apply the design process.

NATIONAL CONGRESS ON AVIATION and SPACE EDUCATION (NCASE)

NCASE is the premier aerospace education conference of its kind in the nation. It is also one of Civil Air Patrol's major contributions to America's aerospace education community. CAP uses this forum to promote science, math and technology in today's classrooms. Presented annually since 1968, NCASE brings together educators from around the nation to learn from a variety of gifted speakers and motivational teachers. Aerospace-oriented hands-on activities for all grade levels are offered in a variety of break-out sessions. Educators share new experiences and discover learning tools that will capture the imagination of their students. Teachers learn how the wonders of aviation and space can be used to teach ordinary subjects in an extraordinary way. Several awards are presented during the conference including the A. Scott Crossfield Aerospace Education Teacher of the Year Award, the National Aeronautic Association's Frank G. Brewer Trophy, National Coalition for Aviation Education Leadership Award, and the National Congress Crown Circle for Aerospace Education Leadership.

Be sure to attend the next NCASE! Find out details at:

<http://www.capnhq.gov/conference/pages/nc/nationalcongress.html>

NCASE



Breakout Session



Breakout Session



Exhibit Hall Demonstration



Astronaut Speaker



Motivational Speaker



Hangar Talk



Aerospace Education Foundation



The **Aerospace Education Foundation**, established in 1956, is an affiliate of the Air Force Association and dedicated to ensuring America's aerospace excellence through public awareness programs, education and financial assistance. AEF works through a network of thousands of Air Force Association members and 250 AFA chapters to distribute educational material to schools and concerned citizens. Additionally, AEF:

- Supports the education of America's youth in math and the sciences.
- Assists the Air Force in meeting its educational requirements.
- Keeps the American public informed about aerospace issues.
- Advocates the importance of aerospace technology to the economic health, security and survival of our nation.
- Increases the quality and quantity of America's aerospace work force.

For additional information, AEF's website is <http://www.aef.org>

AEF has special scholarships for first-time CAP teacher AE memberships as well as **\$250 educator grants** for CAP teacher members that are designed to promote aerospace education activities in classrooms from kindergarten to twelfth grades. The program encourages development of innovative aerospace activities within the prescribed curriculum. The program also encourages establishing an active relationship between the school and the local Air Force Association organization. To find out more about these grants, go to http://www.capnhq.gov/nhq/aeroed/ETA/AE_Grants.htm or to the AEF website at <http://www.aef.org/aid/educator.asp>.

CAP Aerospace Education